

JET Meeting Minutes

July 21, 2008

I. Participants

Guy Almes	Texas A&M	galmes@tamu.edu
Jeff Bartig	Un. Of Wisconsin/WiscNet	jeffb@doit.wisc.edu
John Boyd	USGS-EROS	boyd@usgs.gov
Ron Broersma	DREN	ron@spawar.navy.mil
Joe Burrescia	ESnet	joeb@es.net
Rich Carlson	Internet2	rcarlson@internet2.edu
Vince Dattoria	DOE/SC	Vince.Dattoria@science.doe.gov
David Farmer	UMN	farmer@umn.edu
Peter Gutierrez	UMass	peterg@nic.umass.edu
Dave Hartzell	NREN	david.hartzell@nasa.gov
Alex Hsia	NOAA-Boulder	Alex.Hsia@noaa.gov
Carla Hunt	MCNC/NCREN	Carla@mcnc.org
Jerry Janssen	NOAA	jerry.janssen@noaa.gov
Richard Jimmerson	ARIN	Richard@arin.net
Michael Lambert	PSC/3ROX	lambert@psc.edu
Paul Love	NCO	epl@sover.net
Dan Magorian	MAX	magorian@maxgigapop.net
Grant Miller	NCO	miller@nitrd.gov
Scott Morris	DOE-ORISE	scott.morris@orau.org
Mike Rechtenbaugh	USGS-EROS	rech@usgs.gov
Dave Reese	CENIC	dave@cenic.org
Chris Robb	Internet2	crobb@internet2.edu
Scott Rose	NIST	scottr@nist.gov
Paul Schopis	OARnet	pschopis@oar.net
John Silvester	MSC/Pac Wave	Silvester@usc.edu
Joe St Sauver	Internet2/Un of Oregon	joe@oregon.uoregon.edu
Brent Sweeney	Indiana Un./GRNOC	sweeney@iu.edu
Kevin Thompson	NSF	kthompso@nsf.gov
Brian Tierney	Internet	BLTierney@es.net
Alan Verlo	StarLight	darkman@evl.uic.edu
Rob Vietzke	Internet2	rvietzke@internet2.edu
Carlos Vincente	Un. Of Oregon/Gigapop	carlos@ns.uoregon.edu
Caroline Weilhamer	Clemson Un.	Ccn1@clemson.edu
Ken White	NISN	ken.white@msfc.nasa.gov
Jim Williams	Indiana Un.	William@indiana.edu

Action Items

1. If you are interested in using AtlanticWave to reach SC08 please contact either Julio Ibarra <julio@fiu.edu> or Matt Siniscal <matt@maxgigapop.net>.

Proceedings

This meeting of the JET was coordinated by Paul Love of the NCO.

Network and Exchange Point Roundtable

DREN

Nothing to report.

ESnet

ESnet is creating a sub-hub in Las Vegas. They are placing a router in NAP4 in the Switch2Switch facility. ESnet has 32 Juniper MX boxes for their Science Data Network. They expect to create the operational network in the next 8-9 months. ESnet transmitted 3.2 Petabytes of data in the month of June. The dark fiber project to ESnet & NOAA sites at Princeton is on track. The ESnet presentation at the Joint Techs may be accessed at: www.internet2.edu/presentations/jt2008jul/20080722-burrescia.pdf

Internet2Net

Internet2 has upgraded its Charlotte node. Routers are being upgraded to Junos 8.5

The Internet2 Joint Techs presentation may be accessed at:

www.internet2.edu/presentations/jt2008jul/20080721-boyd2.pdf

NISN

NISN is upgrading a pair of T1s to the US Naval Observatory to a GigE to support the eVLBI application. The application is using the HIC/DREN network to transport data from Hawaii to Seattle, then to the MAX. The NISN link carries the data from the MAX to the US Naval Observatory. NISN is planning to upgrade in 1 to 2 years to an OC192 backbone. Dmarks will be moved deeper into the NASA centers. They are considering reconfiguring their interfaces in Boulder, Colorado, moving from the University in Boulder to a data center facility in Denver. NISN has terminated its peering at MAE-East, MAE-West, and the Chicago NAP. NISN continues to peer at NGIX-East, NGIX-West, StarLight, SOX, and Equinix.

NLR

NLR is planning to replace its 15808s with Cisco 15454s that are capable of supporting 80 channels. The upgrade is challenging because on some links there is a single pair of fibers where replacement could cause disruption of services. They will be upgrading their West coast fabric first. NLR has a dynamic service for FrameNet. There is an agreement that must be signed to use it. The agreement is on the NLR NOC page.

The NLR presentation at Joint Techs may be found at:

www.internet2.edu/presentations/jt2008jul/20080723-reese.pdf

NOAA

Nothing new to report

Northern Tier

Northern Tier presented their network status at Joint Techs. Their two briefings may be accessed at:

<http://events.internet2.edu/2008/jt-lincoln/sessionDetails.cfm?session=10000076&event=281>

NREN

NREN is working with NISN to implement an OC192 between Ames Research Center and Goddard Space Flight Center

USGS

South Dakota has implemented a new 10 Gbps network (Northern Tier)+ that USGS will be joining in September. In January 2009 all South Dakota sites are expected to have joined this network. All five USGS network Points of Presence have been accepted as single point TICs, located at Reston, Sioux Falls, Alaska, Menlo Park, and Chicago.

TransPAC

TransPac has signed a contract for extension to Pakistan. The circuit is scheduled to be in-place in 35-45 days. They are working with Japan to implement DCN services.

College Park

Nothing to report.

ManLan

ManLan is upgrading its Nortel HDXc equipment to level 4.0 imminently. It will enable additional tool development. The Global Crossing 10G circuit to Europe is being replaced with a Level3 circuit

StarLight

KISTI has requested a 1 GE circuit to StarLight. StarLight is working with GLIF for support to SC08. They are supporting a High performance Digital Media (HPDM) demonstration in Seattle for Joe Mambretti

NGIX-West

Google is peering at Sunnyvale using IPv6 with some people. Bay area connectivity is increasing.

Pacific Wave

Pacific Wave is supporting the HPDM demonstration at the GLIF meeting in early October. They are considering a 10 GE link to SC08.

Inter-Agency Communications and International Projects BOF

Jim Williams is holding a BOF on Tuesday to discuss reporting mechanisms and

cooperation on security for international links.

Who do you call?

The Large Scale Networking (LSN) Coordinating Group (CG), parent organization to the JET expressed an interest in identifying resources of networking engineering expertise who could serve as a resource for leading-edge science applications requiring advanced networking. If the science application developers require assistance in identifying problems and solutions for networking to support their application including cross-domain issues, and if they have exhausted the resources of their local NOC, who should they call? Discussion among the JET members identified that this is something the JET should do and initial resources would include Rich Carlson, Brian Tierney, and Matt Mathis. Emphasis should be on working with the local network engineers so they develop the expertise to resolve any future problems.

SCinet Plans

10-12 waves have been identified that will provide connectivity to SC08. Pacific Wave is considering providing a wave. If there are any new applications requirements for support at SC08, the application researchers should contact the representatives of the networks supplying the connectivity to SC08 so their application can be appropriately supported. NLR and Internet2 both indicated they plan to treat SC as a full node.

IPv6

Mark Prior, formerly with AARnet and now with Juniper (Australia), developed an IPv6 status page for Internet2 networks. He is extending the status page to reflect US R&E networks. Discussion among the JET members identified that the status page provides useful information. Networks should have their IPv6 status displayed in the status page unless they opt to not have their information displayed. The web page may be found at: www.mrp.net/IPv6_Survey.html

Ron Broersma of DREN provided a briefing at Joint Techs on DREN's debugging of IPv6 and their push for development of additional IPv6 tools and capabilities. He noted that DHCPv6 implementations aren't very interoperable. Also that traffic at the edge had grown from 3% to 5% in the last 6 months. The briefing may be found at: www.internet2.edu/presentations/jt2008jul/20080722-broersma.pdf

Trusted Internet Connection (TIC) Update

Mike Rechtenbaugh sent out an update on the TICs. Two multi-service providers have been approved and 16 single-service providers. Ames Research Center of NASA is being considered as a TIC site and NASA Headquarters is considering the possibility.

ARIN

39 IPv4 /8s remain to be allocated. By the end of 2008 the number of /8s still available is projected to be in the low 20s. 14 /8s were allocated in 2008. Less than three years supply of /8s remains. ARIN expects a run on allocation of the last /8s but they haven't seen this occurring yet. ARIN has a policy document (Legacy Resource Service Agreement (LRSA)) on legacy holders of address space. ARIN is interested in comments

from knowledgeable network professionals on the RSA.

Richard Jimmerson's talk on IPv6 address allocation can be found at:

www.internet2.edu/presentations/jt2008jul/20080721-jimmerson.pdf

4 Byte ASNs

There is consensus that 4 Byte ASNs are ready to be used when the standard developed by ARIN is adopted.

Meetings of interest

August, 2nd week: DREN Networkers Conference, San Diego, California

August, 2nd week: APAN Conference, New Zealand

August 24, NISN User's Conference, Chicago, Illinois

September 28-30 Networking Research Challenges Workshop, Seattle, Washington

October 1-2 GLIF Meeting, Seattle, Washington

October 13-16, Internet2 Member Meeting, New Orleans, Louisiana

October 15-17: ARIN meeting in conjunction with NANOG, Los Angeles, California

November 15-21, SC08, Austin, Texas

December, 1st week: The Interworking Conference is being held in Miami Beach. Telcos and academic institutions will attend from the US, Latin American and Asian-Pacific communities

Future JET Meetings

August 19, 11:00-2:00, NSF, Room 1150

September 16, 11:00-2:00, NSF, Room 1150

October 21, 11:00-2:00, NSF, Room 1150

November 19 1:00-4:00 CST, Austin Convention Center, Room 8A (In conjunction with SC08)